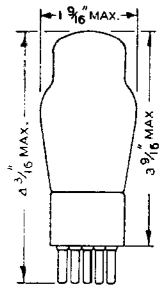
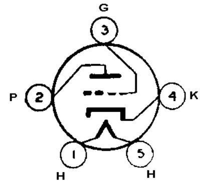


RCA-56

SUPER-TRIODE AMPLIFIER DETECTOR



The 56 is a three-electrode tube of the heater-cathode type recommended for use as detector, amplifier, or oscillator in a-c receivers designed for it. This tube is characterized by its high mutual conductance, and its comparatively high amplification factor. The 56 is useful in resistance-coupled audio-frequency amplifiers.

CHARACTERISTICS

Heater Voltage (A. C. or D. C.)		2.5	Volts
Heater Current		1.0	Ampere
Plate Voltage	100	250 *max.*	Volts
Grid Voltage*	−5	−13.5	Volts
Plate Current	2.5	5	Milliamperes
Plate Resistance	12000	9500	Ohms
Amplification Factor	13.8	13.8	
Transconductance	1150	1450	Micromhos
Grid-Plate Capacitance		3.2	$\mu\mu$f
Grid-Cathode Capacitance		3.2	$\mu\mu$f
Plate-Cathode Capacitance		2.2	$\mu\mu$f
Bulb			ST-12
Base			Small 5-Pin

* If a grid-coupling resistor is used, its maximum value should not exceed 1.0 megohm.

INSTALLATION

The base pins of the 56 fit the standard five-contact socket which may be installed to hold the tube in any position.

The **bulb** of this tube will become very hot under certain conditions of operation. Sufficient ventilation should be provided to prevent overheating.

The **heater** is designed to operate at 2.5 volts. The transformer winding supplying the heater circuit should be designed to operate the heater at this recommended value for full-load operating conditions at average line voltage.

The **cathode** should preferably be connected directly to a mid-tap on the heater winding or to a center-tapped resistor across the heater winding. If this practice is not followed, the potential difference should be kept as low as possible.

APPLICATION

As an **amplifier,** the 56 is applicable either to radio-frequency or audio-frequency circuits. Recommended operating conditions for service using transformer coupling are given under CHARACTERISTICS. For operation as a resistance-coupled amplifier, refer to the Resistance-Coupled Amplifier Section.

As a **detector,** the 56 may be of the grid leak and condenser or grid-bias type. The plate voltage for the grid leak and condenser method should be about 45 volts A grid leak of from 1 to 5 megohms with a grid condenser of 0.00025 μf is satisfactory. For the grid-bias method of detection, a plate-supply voltage of 250 volts may be used together with a negative grid-bias voltage of approximately 20 volts. The plate current should be adjusted to 0.2 milliampere, with no input signal voltage. The grid-bias voltage may be supplied from the voltage drop in a resistor between cathode and ground. The value of this self-bias resistor is not critical, 30000 to 150000 ohms being suitable. The higher value will permit the application of a larger input signal.

A plate family for this type is given under type 76.